



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D412-702-071
Job Sheet 190134



Part No: D412-702-071

Job Qty: 1 pcs

Part Name: Comfort Crew Shoulder Harness



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/5/19

Job Tracking No:

Due Date: 3/22/19

Created By: Jesse White

Type: Stock

Description: SIOP

Note: IIN-D412-702-3 REV C IPP Rev:A 11.03.01 new issue DD verf:EC IPP Rev:B 12.09.05 per DSI9612 DD
verf:JFS IPP Rev.C 17.09.19 IIN412-702-3 Rev.C DD Verify DP

Ship Via:

8308

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Packaging 1 - Pick Kit	1 pcs		3/22/19	0.00	0.00	Packaging 1 - 1		
							Packaging 1 - 2		
							Packaging 1 - 3		
							Packaging 1 - 4		
							Packaging 1 - 5		
							Packaging 1 - 6		
							Packaging 1 - 7		
							Packaging 1 - 8		
							Packaging 1 - 9		
							Packaging 1 - 10		
							Packaging 1 - 11		
							Packaging 1 - 12		
							Packaging 1 - 13		
							Packaging 1 - 14		
							Packaging 1 - 15		
							Packaging 1 - 16		
							Packaging 1 - 17		
							Packaging 1 - 18		
							Packaging 1 - 19		
							Packaging 1 - 20		
							Packaging 1 - 21		
							Packaging 1 - 22		
							Packaging 1 - 23		
							Packaging 1 - 24		
							Packaging 1 - 25		
							Packaging 1 - 26		
							Packaging 1 - 27		
							Packaging 1 - 28		
							Packaging 1 - 29		
							Packaging 1 - 30		

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaero.com



Container No: S158530

Part: D412-702-071

Job No: 190134

Serial No/Batch: S158530

Revision: C

Inspector:

Exp Date:

Instructions: TC STC SH04 - 7 Issue 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

					Packaging 1 - 31	
					Packaging 1 - 32	
					Packaging 1 - 33	
					Packaging 1 - 34	
					Packaging 1 - 35	
					Packaging 1 - 36	
120 QC 4	1 pcs	3/22/19	0.00 0.00		QC 4 - 26	
					QC 4 - 28	
					QC 4 - 38	
					QC 4 - 42	
					QC 4 - 58	
					QC 4 - 6	DAS
					QC 4 - 69	69
					QC 4 - 9	9-89
					QC 4 - 46	DAS
130 Packaging 3-1 - Stock - B4B	1 pcs	3/22/19	0.00 0.00		Packaging 3 - 1 - B4B	MAR 04 2019 69
					Packaging 3 - 2 - B4B	9-89
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
135 DC - 1 - B4B	1 pcs	3/22/19	0.00 0.00		DC - 1 - B4B	
					DC - 2 - B4B	
140 QC 21 - FG	1 pcs	3/22/19	0.00 0.00		QC 21 - FG - 21	DAS
					QC 21 - FG - 70	21
					QC 21 - SA - 53	9-89

Part Op 110 - (Pick Kit)

Descriptions: 120 - (QC4- 100% Inspect kits for completeness)

130 - Identify and pack for shipping as per PPP D412-702-071 Location:FG029

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

135 - (Document Control) Photocopy bluefile & type labels per PPPD412-702-071 CHG003

140 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
AN3-10A	Bolt	2 Ea (2 ea)	110-Packaging 1 - Pick Kit	5132304
AN3-4A	Bolt	4 Ea (4 ea)	110-Packaging 1 - Pick Kit	5112901
AN4-6A	Bolt	2 Ea (2 ea)	110-Packaging 1 - Pick Kit	5074205
D4305-041	Shoulder Harness Assembly	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	505560
MS21042L3	Nut	6 Ea (6 ea)	110-Packaging 1 - Pick Kit	5132364
MS21042L4	Nut	2 Ea (2 ea)	110-Packaging 1 - Pick Kit	5149814
NAS1149D0332J	Washer	10 Ea (10 ea)	110-Packaging 1 - Pick Kit	5113751
NAS1149D0363J	Washer	6 Ea (6 ea)	110-Packaging 1 - Pick Kit	5123436
NAS1149D0432J	Washer	4 Ea (4 ea)	110-Packaging 1 - Pick Kit	5093756
NAS1149D0463J	Washer	4 Ea (4 ea)	110-Packaging 1 - Pick Kit	5150216
AN970-4	Washer	4 Ea (4 ea)	110-Packaging 1 - Pick Kit	5114901

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit	AN3-10A	2	235	0
	AN3-4A	4	354	0
	AN4-6A	2	816	0
	AN970-4	4	92	0
	D4305-041	1	1	0
	MS21042L3	6	2,782	0
	MS21042L4	2	3,427	0
	NAS1149D0332J	10	2,714	0
	NAS1149D0363J	6	856	0
	NAS1149D0432J	4	538	0
	NAS1149D0463J	4	4,796	0

Part Specifications

Specifications could not be found.

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WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
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Description Work Order Deviation			Disposition		
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Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

4.0 WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D412-702-071	-2.6 lb	± 22.0 in	± 57.2 in lb	47.0 in	-122.2 in lb
<i>Pilot/Co-pilot Shoulder Harness Kit</i>	-1.2 kg	± 0.56 m	± 0.67 m kg	1.19 m	-1.43 m kg
D412-702-073	-2.6 lb	± 22.0 in	± 57.2 in lb	47.0 in	-122.2 in lb
<i>Pilot/Co-pilot Shoulder Harness Kit</i>	-1.2 kg	± 0.56 m	± 0.67 m kg	1.19 m	-1.43 m kg
D412-702-075	-2.6 lb	± 22.0 in	± 57.2 in lb	47.0 in	-122.2 in lb
<i>Pilot/Co-pilot Shoulder Harness Kit</i>	-1.2 kg	± 0.56 m	± 0.67 m kg	1.19 m	-1.43 m kg

5.0 PARTS LISTS

QTY -071	QTY -073	QTY -075	Part Number	Description
X			D412-702-071	Dart Pilot/Co-Pilot Shoulder Harness Kit
	X		D412-702-073	Dart Pilot/Co-Pilot Shoulder Harness Kit
		X	D412-702-075	Dart Pilot/Co-Pilot Shoulder Harness Kit
1			D4305-041	SHOULDER HARNESS
	1		D4305-043	SHOULDER HARNESS
		1	D4305-045	SHOULDER HARNESS
4	4	4	AN3-4A	BOLT
2	2	2	AN4-6A	BOLT
2	2	2	AN3-10A	BOLT
4	4	4	AN970-4	WASHER
6	6	6	MS21042L3	NUT
2	2	2	MS21042L4	NUT
10	10	10	NAS1149D0332J	WASHER
6	6	6	NAS1149D0363J	WASHER
4	4	4	NAS1149D0432J	WASHER
4	4	4	NAS1149D0463J	WASHER

REFERENCE ONLY

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Revision: C

Date: 17.05.24

DART SERVICE INSTRUCTION

TO AMEND IIN-D412-702-3 REV. A OR EARLIER

AND ICA-D412-702 REV. 4 OR EARLIER

REF CANADIAN STC: SH04-7

REF FAA STC: SR01997NY

REF EASA STC: EASA.IM.R.S.00710

1.0 PURPOSE

THE PURPOSE OF THIS DSI IS TO CORRECT THE HARDWARE CALLED OUT IN THE D412-702-071 KIT.

2.0 WEIGHT AND BALANCE

NO CHANGE.

3.0 PARTS LIST

IS:

QTY -071	P/N	DESCRIPTION
X	D412-702-071	DART PILOT/CO-PILOT SHOULDER HARNESS KIT
1	D4305-041	SHOULDER HARNESS
4	AN3-4A	BOLT
2	AN4-6A	BOLT
2	AN3-10A	BOLT
6	MS21042L3	NUT
2	MS21042L4	NUT
10	NAS1149D0332J	WASHER
6	NAS1149D0363J	WASHER
4	NAS1149D0432J	WASHER
4	NAS1149D0463J	WASHER

WAS:

QTY -071	P/N	DESCRIPTION
X	D412-702-071	DART PILOT/CO-PILOT SHOULDER HARNESS KIT
1	D4305-041	SHOULDER HARNESS
4	AN3-4A	BOLT
2	AN3-6A	BOLT
2	AN3-7A	BOLT
14	NAS1149D0332J	WASHER
8	NAS1149D0363J	WASHER
8	MS21042L3	NUT

REFERENCE ONLY

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 12.05.01
CERT. NO.: SH04-7
ISSUE NO.: 3

A	NEW ISSUE	RP	12.05.01
REV.	DESCRIPTION	BY	DATE
DESIGN	RP	DART AEROSPACE LTD	
DRAWN	RP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	al	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9612	SHEET 1 OF 2
APPROVED	RP	TITLE	PILOT/CO-PILOT HARNESS
DE APPR.	RP	UPDATES	SCALE
DATE	12.05.01	NTS	
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Change Record

PAGE 1 OF 1

Part Number: D412-702-071

Description: PILOT/CO-PILOT SHOULDER HARNESS

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